We claim:

1. An array composition comprising:
(a) a rigid support;
(b) a molded layer with at least a first assay location comprising discrete sites, wherein said molded layer is adhered to said rigid support;
(c) a layer of bonding agent adhering said rigid support to said molded layer; and
(d) a population of microspheres comprising at least a first and a second subpopulation, wherein said first subpopulation comprises a first bioactive agent and said second subpopulation comprises a second bioactive agent wherein said microspheres are randomly distributed on said sites.

2. An array composition according to claim 1, wherein said sites are separated by a distance of at least about 5 μm.

3. An array composition according to claim 1, wherein said sites are separated by a distance of at most about 100 μm.

4. An array composition according to claim 1, wherein said rigid support is formatted to the dimensions of a microscope slide.

5. An array composition according to claim 1, wherein said molded layer comprises at least a second assay location comprising discrete sites.

6. An array composition according to claim 5, wherein said first and second assay locations are separated by a fluid barrier.

7. An array composition according to claim 6, wherein said fluid barrier is a physical fluid barrier.

8. An array composition according to claim 7, wherein said physical fluid barrier comprises a material that is added to said molded layer.

9. An array composition according to claim 8, wherein said molded layer comprises said physical fluid barrier.

10. An array composition according to claim 6, wherein said fluid barrier comprises a physico-chemical surface coating.

11. An array composition according to claim 1, wherein said first and second bioactive agents comprise nucleic acids.

12. An array composition according to claim 1, wherein said first and second bioactive agents comprise proteins.

13. An apparatus comprising:
(a) a detection instrument; and
(b) the array composition according to claim 1, wherein said composition is in said instrument.

14. A method of detecting a target analyte using the apparatus of claim 13, comprising the steps of:
(a) contacting said array composition with a sample containing said target analyte; and
(b) detecting said target analyte using said detection instrument.

15. A method for making an array composition containing at least a first assay location having discrete sites comprising the steps of:
(a) contacting a surface of a template structure, said surface comprising one or more sets of projections, with a moldable material;
(b) removing said moldable material from said surface of said template structure, whereby said removed moldable material forms a molded layer with at least a first assay location comprising discrete sites;
(c) adhering said molded layer to a rigid support; and
(d) randomly distributing microspheres on said molded layer such that individual discrete sites comprise microspheres, wherein said microspheres comprise at least a first and a second subpopulation, wherein said first subpopulation comprises a first bioactive agent and said second subpopulation comprises a second bioactive agent.

16. The method according to claim 15, wherein the projections in said one or more sets of projections are separated by a distance of at least about 5 μm.

17. The method according to claim 15, wherein the projections in said one or more sets of projections are separated by a distance of at most about 100 μm.

18. The method according to claim 15, wherein said template structure is cylindrical, and steps (a) and (b) are carried out by a continuous process of rolling said cylindrical template structure.

19. The method according to claim 15, wherein said molded layer is flexible.

20. The method according to claim 19, wherein said flexible molded layer is stored in rolled form.

21. The method according to claim 15, wherein said molded layer comprises at least a second assay location comprising discrete sites.

22. The method according to claim 21, wherein said first and second assay locations are separated by a fluid barrier.

23. The method according to claim 21, further comprising the step of adding a fluid barrier to said molded layer, which fluid barrier separates said first and second assay locations.

24. The method according to claim 15, wherein said rigid support is formatted to at least one dimension of a microscope slide.

25. The method according to claim 15, further comprising a step of applying a releasing agent to said surface of said template structure prior to said contacting step.

26. The method according to claim 15, further comprising the step of coating the back surface of said molded layer with an adhering agent.